

Application No: 10/623,933
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EQ 098560188 US

IN THE SPECIFICATION:

Please amend page and lines as follows:

Page 4, line 5

- Affects the accuracy of the calibrated sample 119 if they combine with the precise volume 119 that is being dispensed by the inside of the tip cavity 124. This can occur if the tip touches the sides of the receiving container leaving its droplets 116 to combine with the calibrated sample 119 being transferred.

Page 4, line 9

-Droplets from the non-calibrated residue fluid 116 can migrate to the tip's dispensing end 114 and combine with the precision calibrated amount of internal fluid 119 to affect dispensing accuracy.

Page 4, line 16

This new invention address all of these concerns by providing an injection molded wiper 90 as part of the closure to eliminate any and all non-calibrated residue 116 occurring during the transfer of fluids during liquid pipetting.

Page 12, line 15, after "section" remove ~~—(tube only)—~~.

Figure 12A is a partial side section (~~tube only~~) of Figure 12.

Page 12, line 21, after "tip" remove ~~—after—~~.

Figure 17 is a side section of Figure 15 showing a pipette tip after leaving the wiping cap.

Page 27, line 20

Add: 112 Helical Slot

Page 27, line 21

Add: 113 Substantial Closed Apex End

Page 27, line 22

Add: 114 Dispensing End – Pipette Tip

Page 27, line 23.

116 Non-Calibrated Fluid Droplets

Page 27, line 25

Add: 119 Calibrated fluid

Page 27, line 34

Add: 124 Inside Cavity of Pipette Tip

Page 27, line 35

Add: 125 Outside Surface of Pipette Tip

On Page 20, please amend the following paragraph beginning on line 5.

Another embodiment, Figures 11, 12 12A and 13, shows an alternative to my "Sealing Cap for Container" Patent No.5, 513,768 with the replacement of the convex sealing diaphragm with a pipette tip wiping configuration. Figure 11 shows a perspective view of the two-cap design with the spiral wiping fingers 90 rotating more than one revolution and converging to the substantially closed apex end 113. The spiral wiping fingers 90 are formed from at least one helical slot 112 beginning at a substantial closed apex end 113 as shown in Figure 12 and molded into the wiping cap 92 attached to the container tube 50 by a hinge 94. Locking Cap 96 is molded 180 degrees opposite the wiping cap 92 and is connected to tube 50 by hinge 98, which completes the one-piece injection molded assembly. In use the tube 50 would be filled with fluid 41, wiper cap 92 would then be rotated into the tubes tapered sealing surface 100 mating with the wiping cap 92 sealing surface 102. To access the tubes fluid with a pipette tip 115 attached to pipetter barrel 61, you would pass the tip 115 through the spiral wiping finger or fingers 90, by expanding them, draw the calibrated sample fluid 119 into the cavity 124 of pipette tip 115, withdraw the tip 115 from the tube 50 and transport the sample 119 to its location for its dispensing. Unlike prior art, during the withdrawal cycle the wiping fingers 90, contract about the entire outside surface 125 of the pipette tip 115 and removed in a squeegee like action all non-calibrated residue fluid droplets 117 116 from the entire outside of the tip 115 and leave it within tube 50 as shown in Figure 16 and Figure 17.

On Page 20, please amend the following paragraph beginning on line 28 and ending on Page 21, line 11

A single cap variation of the spiral wiping finger 90 is shown in Figures 15-18. This embodiment is also a one-piece injection molded closure design incorporating a threaded skirt 40 attached to access cap 44 by hinge 46. Its sealing and locking features are the same as is shown and described by Figure 3 and 3A. However, the convex sealing diaphragm 43 has been replaced

with spiral wiper finger 90. Figure 16 shows a pipette tip 115 that has entered the fluid contents 41 of tube 50 by expanding the fingers of the spiral wiper 90 and has withdrawn its calibrated sample fluid 119. As the tip 115 is retracted from the fluid 41, there exists fluid in the form of film or droplets 116 on the outside surface 125 of the tip 115. This is due to the surface tension of plastic tip material, usually polypropylene, to attract the fluid. As the tip 115 is drawn upwards out of the tube 50 as shown in Figure 17, the spiral finger 90 contracts about its conical surface 125 creating a squeegee like action while wiping all of the non-calibrated fluid 116 from its entire outside surface 125 back into the container 50. This leaves the outside surface 125 of the tip 115 clean and ready to be transported to its next location for dispensing as shown in Figure 14. The container can now be closed and sealed for further use. In addition to the sealing surfaces as described by Figure 3 and 3A there can exist mating surfaces 117 of the access cap 44 and 118 of the wiping finger cavity which can also form an additional seal as shown in Figure 18 closed and sealed position. It is also understood that cap 40 can attach to its container 50 by means other than thread (i.e. snap, press fit, etc.).